

ABSTRACT OF THE DISCLOSURE

Disclosed is a new structural class of amphiphilic molecules which incorporate a hydrophilic material or polymer attached, at spatially distinct sites, to at least two hydrophobic residues. Certain of the amphiphilic molecules comprise a plurality of hydrophobic moieties.

5 All such amphiphilic molecules have a common structural motif and, in contact with water, display surface activity and self-assemble into multimolecular aggregates and liquid crystalline phases. Also disclosed are enhanced stability liposomes that incorporate such amphiphilic molecules via unique interactions, and methods of using such formulations in a variety of applications including drug delivery, nutrition, bio-diagnostics, cosmetics, blood products and
10 related applications.